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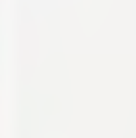


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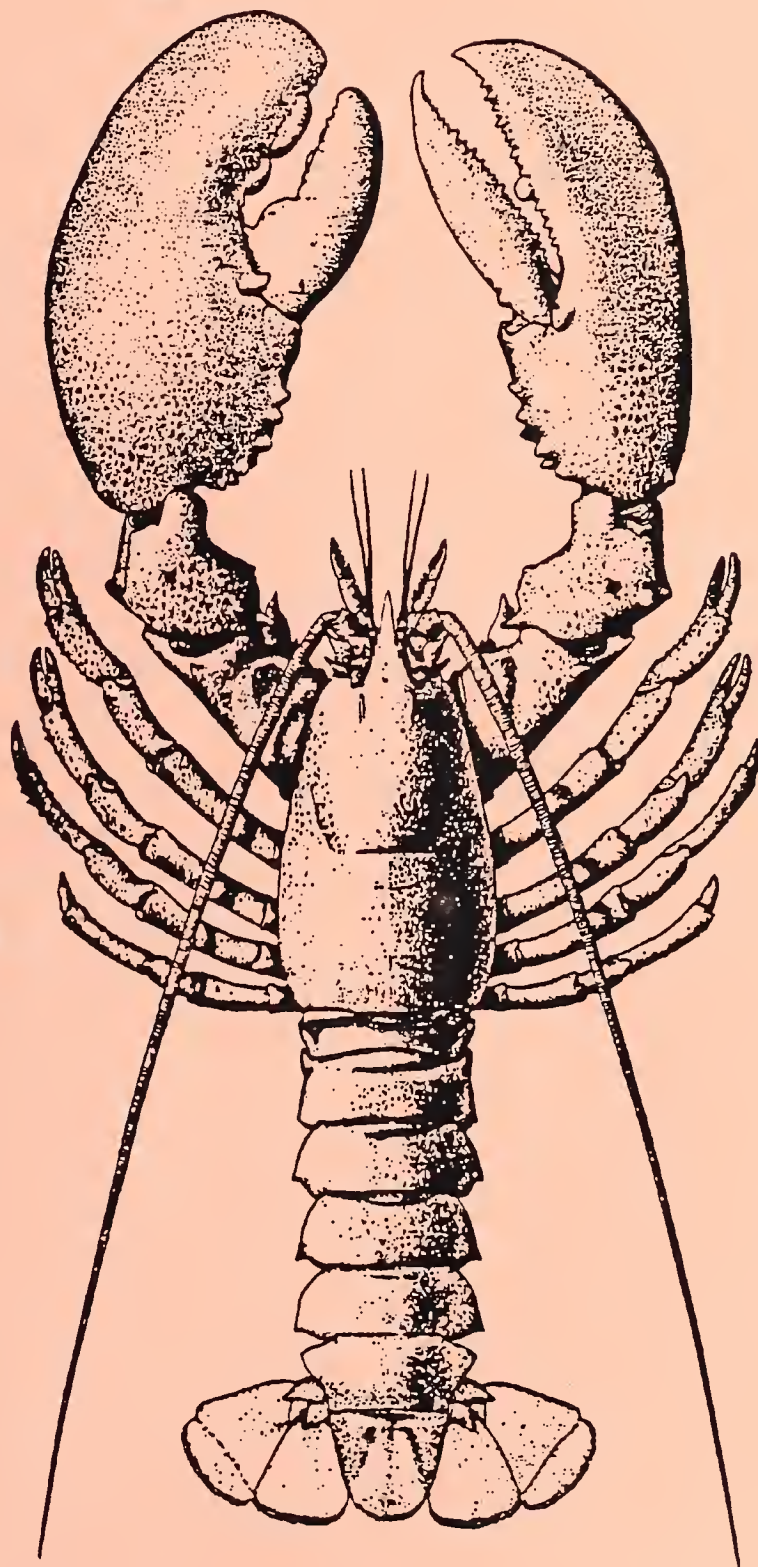
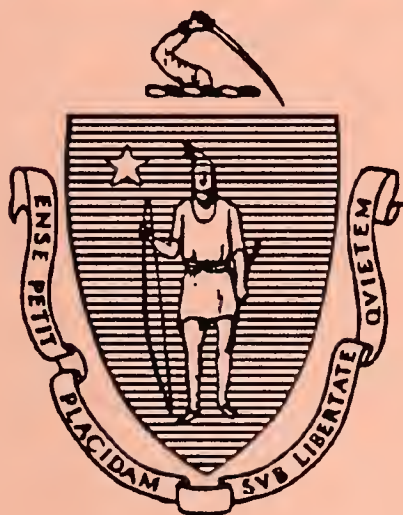
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Massachusetts Lobster Fishery Statistics

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MASSACHUSETTS
DIVISION OF MARINE FISHERIES

1994
**MASSACHUSETTS
LOBSTER FISHERY
STATISTICS**

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Executive Office of Environmental Affairs
Trudy Coxe, Secretary
Department of Fisheries, Wildlife and Environmental Law Enforcement
John C. Phillips, Commissioner
Division of Marine Fisheries
Philip G. Coates, Director**





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INTRODUCTION

The commercial lobster fishery of Massachusetts is the most economically important fishery conducted within the territorial waters of the Commonwealth. The overall importance of the fishery both in New England and, in recent years, the Mid-Atlantic states, has focused the attention of federal, regional and state fishery managers on this species. In the early 1970's, in an attempt to standardize management of the fishery, the federal and state governments developed an overall lobster fishery management plan under the auspices of the State-Federal Fisheries Management Program. However, with the passage of the Magnuson Fishery Conservation and Management Act in 1976, the New England Fisheries Management Council, in cooperation with the Mid-Atlantic Council, has developed and implemented a management plan for the entire Atlantic Coast lobster fishery. The basis and success of any such plan is an accurate statistical data base. The Commonwealth of Massachusetts, with funding from the National Marine Fisheries Service, has been collecting annual reports from licensed lobster fishermen since the early 1960's. In the past these data were used primarily for descriptive and informational purposes, and occasionally for management. With the recent emphasis on Federal management, however, these data are needed to provide the respective management agencies with the information they need to protect the interests of Massachusetts' lobstermen and ensure a productive fishery in the Commonwealth..

During the period 1975 - 1980, the number of coastal commercial lobster permits was limited by law to 1300, with an additional ten percent issued to proven hardship cases. In 1981, a statutory change mandated the establishment of a permanent waiting list from which 100 new permits were issued. Thirty special additional permits were also awarded to full-time commercial fishermen who met certain criteria. From 1982 to 1987, 80 list permits and 20 special additional permits were issued each year. In 1988, the issuance of new coastal permits was suspended. From 1988 to 1993, license transfers were allowed only within the immediate family and if a license was allowed to expire, it was retired. In early 1993, a new regulation was promulgated by DMF establishing broader eligibility criteria and procedures for the transfer of Coastal Commercial Lobster Permits. The number of permits continues to decline from an all time high of 1,865 in 1988 to a more manageable 1,610 licenses today. The new system has also allowed for more orderly turnover in the industry. The new transfer procedures provide for transfer to employees (captains, deck hands, etc.) and persons on an established waiting list in addition to transfers within the immediate family. Only those licenses that have been actively fished for four out of the past five years as evidenced by catch reports filed with the Division may be transferred. The person to whom the permit is transferred must document that he/she has at least one year of experience in the commercial lobster pot fishery or two years of experience in commercial fishing. All transferees must be owner/operators of the new business. The status of transfers for calendar year 1994 is summarized on Page 2.

This report is the twenty - eighth annual publication of data summarized from catch reports submitted by licensed lobster fishermen. Data were presented in a standardized format through 1979. In 1980, the presentation was changed to reflect a more thorough collection and evaluation of the submitted information. This publication represents the ninth year in which data processing and evaluation have been completely computerized. Areal data presented in this report conform to the National Marine Fisheries Service statistical reporting areas. This report does not, however, cover the scope of the Project's existing database and computational capability. Requests for expanded information, or questions concerning this publication, should be made to the Division's Statistics Project in Salem, MA: (508) 745-3113.

This report has been prepared by personnel from the Division of Marine Fisheries Information Systems and Fisheries Statistics Project, funded jointly by the Commonwealth and the National Marine Fisheries Service under the Interjurisdictional Fisheries Act (Public Law 99-659). The preparation of this report would not have been possible without the cooperation of licensed lobstermen who provided the information on their annual reports. Special thanks go to Ann Spires who continues, year after year, to interpret and keypunch, with special care and accuracy, the type of reports that fishermen are likely to fill out, and to Gerald Nash for his help in Oracle development and report generation. Thanks also go to Charlie Anderson, who heads up the project, for his help with system development and upgrades and for his suggestions concerning this publication. These three people are as important to this process as we are, and without them this publication would not be possible. The authors also wish to acknowledge the assistance of Bruce Estrella and Mike Armstrong from our Lobster Biology Project and Eileen Feeney and Kevin Creighton from our permitting office.

SOURCE OF DATA

"No person may fish for or take lobster in coastal waters or land lobster in the Commonwealth without a permit issued by the Director of the Division of Marine Fisheries." (Chapter 130, Mass. G.L., Section 38). Chapter 130, Mass. G.L., Section 33, requires any person so licensed to file an annual report of their catch by January 31 for the preceding calendar year. In 1980, a dual reporting system was established. Commercial lobstermen (coastal, offshore and seasonal(student)) received a detailed catch report form with their license renewal application. This report requests the following information: method of fishing; number and type of gear used; effort data (set-over days, number of trips per month, etc.); pounds of lobster caught; areas fished; principal ports of landing; and information relative to the vessels and traps used in the fishery. Recreational fishermen are asked to report on their license renewal application form the number of lobsters taken during the previous year and the maximum number of traps fished. Project personnel sort, edit, tabulate and interpret data from all reports received. Data presented in this publication are based on catch reports actually received as of November 14, 1995 and are not expanded to represent all of the permits issued in 1994.

COASTAL LOBSTER LICENSE TRANSFER

During 1993, the Division promulgated regulations to broaden the criteria for the transfer of a coastal lobster license from one individual to another. The intent of the new legislation is to create more options for lobstermen who wish to retire and leave this limited entry fishery. During calendar year 1994, the Division facilitated the transfer of 76 coastal lobster licenses. Twenty six of the transfers went to 'captains' who were authorized to fish another holder's license and had fished that holder's license for at least twelve months prior to transfer. Seventeen transfers were allowed within the holder's immediate family, these transfers would also have been allowed prior to the new regulation. Eleven transfers were made directly from the holder to a sternman with a documented fishing history. Eleven lobstermen advertised their coastal lobster businesses to persons on a waiting list maintained by the Division and subsequently transferred their permits. Twenty-three licenses were forfeited to the Division in 1994; eleven of these coastal lobster permits were issued directly to waiting list applicants while the remaining twelve licenses were permanently retired.

EXPLANATION OF TABLES

All data presented in this publication are broken down into two basic categories: the first is **"territorial"** which represents data pertaining to all lobstering activity taking place within the territorial waters (3 mile line) of the Commonwealth (Areas 1-14 on Figure 1A); the **"non-territorial"** category refers to all data outside those coordinates (Areas 15-25 on Figure 1B). In 1990, the statistical reporting map was revised to reflect the territorial / non-territorial breakdown and to conform to the National Marine Fisheries Service's statistical reporting areas. Figures 1A and 1B show the statistical reporting areas used by the Division to collect most commercial fisheries data in the Commonwealth.

Figure 1A. 1994 Massachusetts Lobster Fishery; Statistical Reporting Map Showing Territorial Waters and Outlying Areas

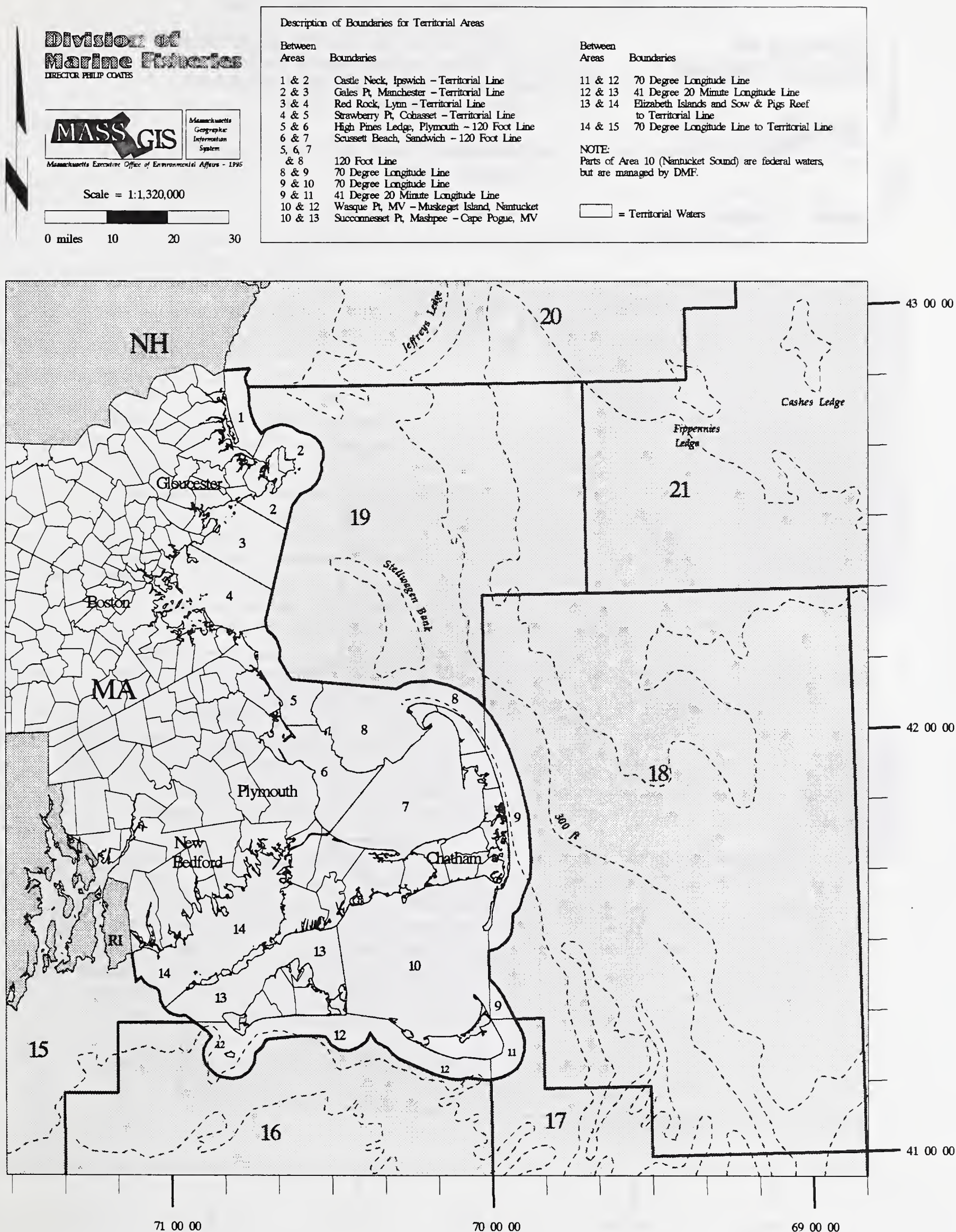
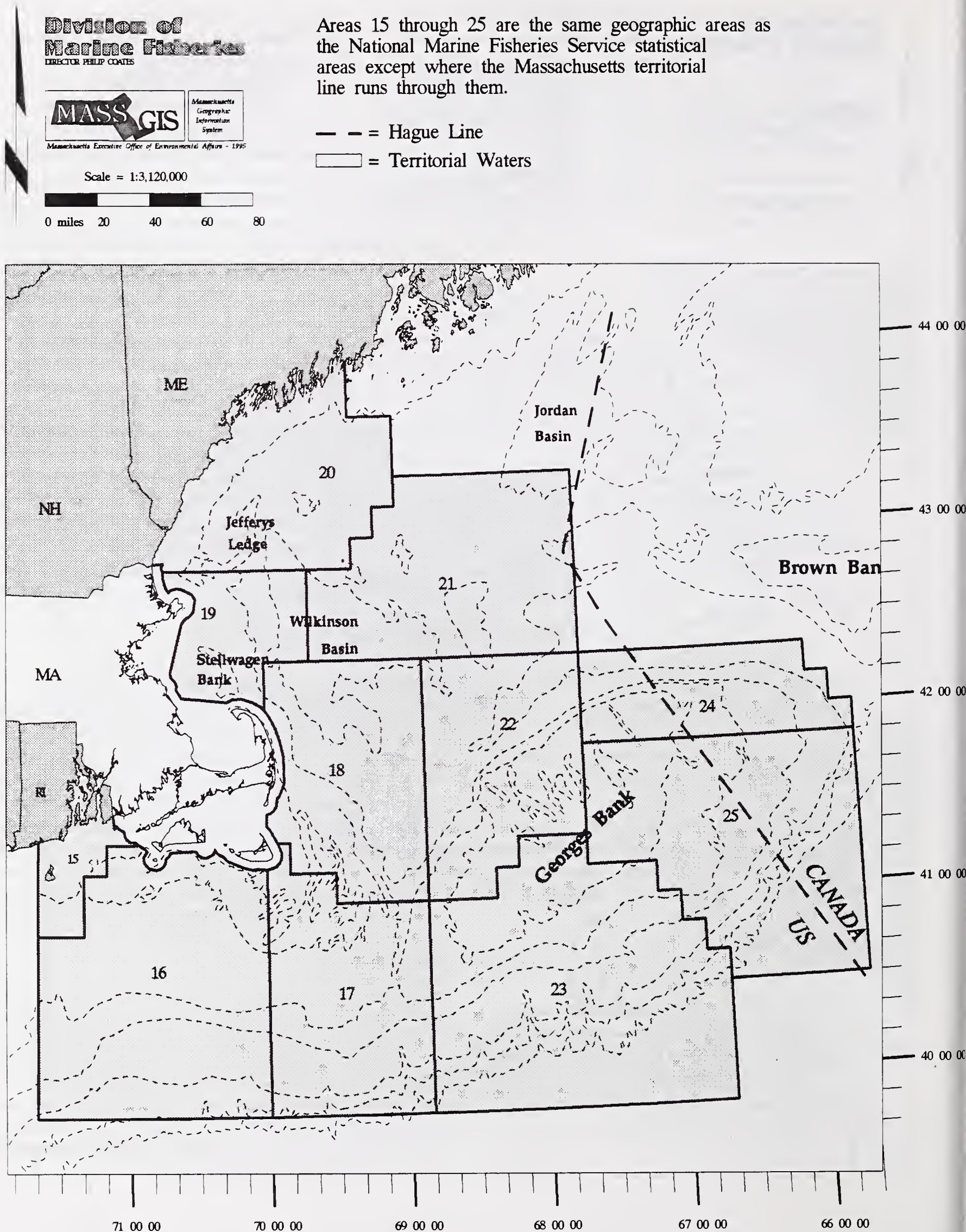


Figure 1B. 1994 Massachusetts Lobster Fishery; Statistical Reporting Map Showing Offshore Areas (which correspond to the National Marine Fisheries Service Statistical Areas)



Below is a brief definition of each lobster license type:

Coastal Commercial: Allows the holder to harvest lobster anywhere, most importantly inside territorial waters.

Offshore Commercial: Allows the holder to harvest lobster outside territorial waters only.

Seasonal Commercial: Allows the holder, if he or she is a student to harvest lobster anywhere, but with a maximum of 25 traps and only during the months of June - September.

Non-commercial: Allows the holder to harvest lobster anywhere using SCUBA gear, a maximum of 10 traps or a combination of both and the catch may not be sold.

In all cases, the legal minimum size of a harvestable lobster was a 3 1/4 inch carapace length in 1994. Since this publication contains time series information back to 1990, it is important to note the changes in minimum carapace size that have occurred during this time. As promulgated by the New England Fishery Management Council in cooperation with the major lobster producing states of the Atlantic Coast, 1990 was the "off-year" of a 5-year program to increase the minimum legal size from 3 3/16 in 1987 to 3 5/16 inches by January of 1992 through four 1/32 inch increases. The program was suspended at the end of 1990 and the planned increases in 1991 and 1992 were omitted until a study of the economic impact of the program could be evaluated. The gauge increase program has not resumed and has been superseded by an proposed amendment to the lobster Fishery Management Plan to control fishing effort without the use of a gauge increase.

Tables presenting number of fishermen, number of pots fished, number and value of boats used in the fishery and total landings statewide, by county and license type, and for each city and town were prepared using the catch reports submitted by commercial fishermen. In keeping with Division policy, some of the data are masked or combined to protect the confidentiality of the individual submitting the report. Data referring to the number of fishermen, number and value of gear, and number and value of boats are presented by the home port of the licensee filing the report. Pounds of lobster harvested are presented by the port of landing reported by the fishermen.

Vessel and SCUBA gear values were calculated on the basis of the fishermen's estimate of its present value and the percentage of its use specifically for lobstering. Average values were used when the information was omitted from an individual report. When fishermen reported the number of lobsters taken, rather than poundage, a conversion factor of 1.26 pounds per lobster was used to calculate poundage figures. This figure is based on information collected by the Division's Coastal Lobster Investigations Project. For information on biological (average carapace length, sex ratios, percent of egg-bearing lobster in catch etc.) and other parameters (mortality, exploitation and catch per unit of effort rates) contact this Project in Sandwich, MA at (508) 888-1155.

Where tables refer to county, the reader is referred to Figure 10.

ISSUED LICENSES AND REPORTING STATUS

Table 1 lists the number of commercial and recreational licenses issued in 1994, the dollar value of fees collected and the number that reported catching lobster. There were 2,349 commercial lobster licenses issued during 1994: 1,612 coastal, 648 offshore and 89 seasonal. Non-commercial licenses issued totaled 11,486, a breakdown of their reporting status and landings can be found in Table 6.

As of November 14, 1995, a total of 91 licensed commercial lobstermen (3.9 percent) failed to file a catch report with the Division. Of the 2,258 commercial fishermen who reported, 535 or 24 percent claimed they did not catch any lobster during 1994. The number of coastal licenses issued continues to decline since a 1988 moratorium on the issuance of new licenses. An annual decrease of approximately two percent per year continued in 1994 driven by fishermen leaving the fishery and the Division's policy to retire half of these licenses received through attrition.

The number of offshore licenses issued dropped approximately nine percent in 1994. Overall compliance with catch reporting by the offshore fleet appears to be improving. Student commercial licenses have increased in number by over 70 percent since 1991.

Table 1. 1994 Massachusetts Lobster Fishery; Reporting Status of Licenses Issued

<u>License Type (Fee)</u>	<u>Licenses Issued</u>	<u>Licensing Revenue</u>	<u>Reported "Catching Lobster"</u>		<u>Reported "No Lobster Catch"</u>		<u>Not Reporting</u>	
Coastal Commercial (\$ 260)	1,612	\$419,120	1,194	74%	401	25%	17	1%
Offshore Commercial (\$ 260)	648	\$168,480	480	74%	119	18%	49	8%
Seasonal (Student) Commercial (\$ 65)	89	\$5,785	49	55%	15	17%	25	28%
Non-Commercial (\$ 40)	11,486	\$459,440	7,162	62%	1,503	13%	2,821	25%
Total	13,835	\$1,052,825	8,885	64%	2,038	15%	2,912	21%

Table 2. Massachusetts Commercial Lobster Fishery; Selected Licensing Information, 1990 - 1994

	1990	1991	1992	1993	1994	Percent Five Year Change
Coastal Licenses						
Issued	1,727	1,682	1,647	1,627	1,612	-6.66%
% Change		-2.61	-2.08	-1.21	-0.92	
"Caught Lobster"	1,281	1,230	1,185	1,195	1,194	
% Change		-1.41	-1.61	2.08	0.85	
"Did Not Catch Lobster"	420	437	445	412	401	
% Change		6.83	3.99	-6.28	-1.76	
Not Reporting	26	15	17	20	17	
% Change		-40.76	15.74	19.09	-14.21	
Percent Not Reporting	1.5%	0.9%	1.0%	1.2%	1.1%	
Offshore Licenses						
Issued	738	717	710	711	648	-12.20%
% Change		-2.85	-0.98	0.14	-8.86	
"Caught Lobster"	417	439	439	479	480	
% Change		8.36	0.99	8.96	9.95	
"Did Not Catch Lobster"	207	208	196	148	119	
% Change		3.43	-4.84	-24.60	-11.78	
Not Reporting	114	70	75	84	49	
% Change		-36.80	8.20	11.84	-36.00	
Percent Not Reporting	15.4%	9.8%	10.6%	11.8%	7.6%	
Seasonal (Student) Licenses						
Issued	67	52	59	74	89	32.84%
% Change		-22.39	13.46	25.42	20.27	
"Caught Lobster"	40	29	29	44	49	
% Change		-6.59	-11.86	51.72	11.36	
"Did Not Catch Lobster"	6	8	9	8	15	
% Change		71.79	-0.85	-11.11	87.50	
Not Reporting	21	15	19	22	25	
% Change		-7.97	11.64	15.79	13.64	
Percent Not Reporting	31.3%	28.8%	32.2%	29.7%	28.1%	

Note: All annual percentage changes are normalized to the number of licenses issued for each license type in each year. Percent five year change is absolute.

LANDINGS AND VALUE

In 1994, 16,174,818 pounds of lobster were reported landed by commercial lobstermen in Massachusetts, a 12.1 percent increase from 1993. Based on an average price of \$2.91 per pound, the commercial catch was valued at \$47,068,720, also a 12.1 percent increase. Figure 2 shows the weighted ex-vessel price for 1994 as derived from audits of lobstermen's records. The weighted average price of \$2.91 is the same average ex-vessel price paid in 1993. (Weighted price means that each price is weighted by the number of pounds that were paid at that price instead of taking a flat average of all prices). Regional differences in price are typical with higher prices usually paid south of Boston due to the availability of larger lobsters off Cape Cod and offshore.

The coastal license holders reported landing 13,135,494 pounds, or 82.1 percent of the commercial catch, up fifteen percent from 1993. Of the 16,174,818 pounds of lobster landed commercially, 10,498,316 were reported taken within the territorial waters of the Commonwealth. In total pounds of lobster landed, Essex County continues to be ranked number one, Plymouth County second and Barnstable County third. See Table 3 for a breakdown of pounds landed and number of fishermen by license type and county and Table 4 for a five-year comparison of selected landings and effort statistics.

Gloucester was the number one port in total pounds landed followed by Boston, Plymouth and Sandwich respectively. In total numbers of active commercial fishermen, Essex County ranked first with 594, Plymouth County second with 309 and Bristol County third with 280. Among the cities and towns of the Commonwealth, Gloucester ranked first in active fishermen followed by New Bedford, Boston and Plymouth, respectively. See Tables 3 and 5, (the shaded areas in Table 5 refer to the top 10 cities in at least one of the two categories: pounds landed and number of fishermen).

Figure 2. 1994 Massachusetts Commercial Lobster Fishery
Weighted Ex-Vessel Price Derived from Audited Lobstermen's Records

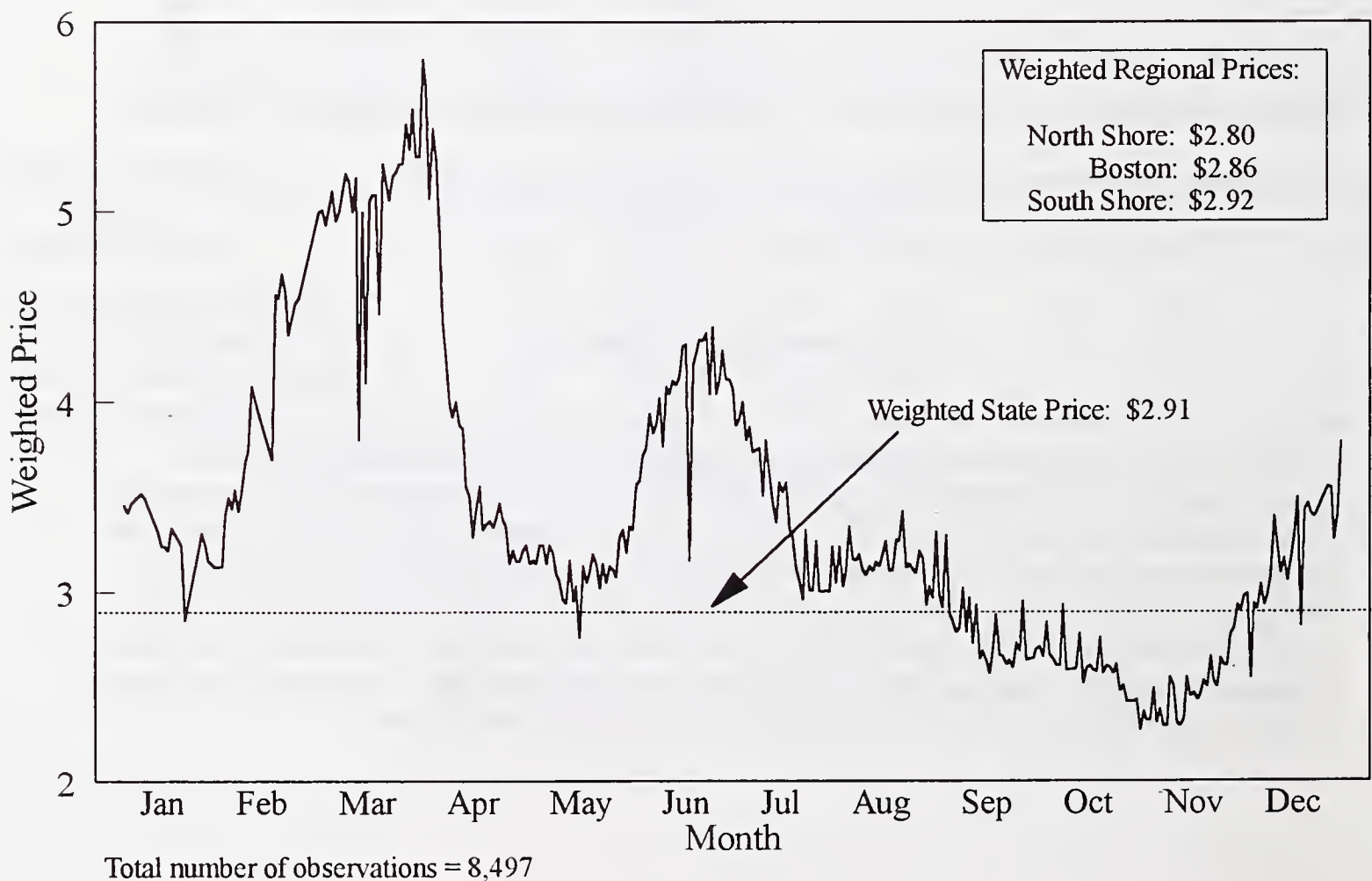


Table 3. 1994 Massachusetts Commercial Lobster Fishery; Number of Fishermen, Harvest (Lbs.) and Value of Harvest

AREA:		TERRITORIAL (Areas 1 - 14)				NON-TERRITORIAL (Areas 15 - 25)			
LICENSE TYPE:		----- COASTAL -----			SEASONAL	---- COASTAL ----			TOTAL NON-*
GEAR TYPE:		Diver	Potman	Potman/ Diver	Potman	Potman	Trawl/ Gillnet	Potman	TERRITORIAL
-- COUNTY --									
BARNSTABLE									
Fishermen			142	12	20	10		17	71
Pounds			1,137,473	57,769	6,465	267,097		804,563	1,116,193
Value (\$)			3,310,046	168,107	18,813	777,252		2,341,278	3,248,122
BRISTOL									
Fishermen			62			18		20	224
Pounds			378,378			484,098		696,035	1,603,227
Value (\$)			1,101,081			1,408,725		2,025,461	4,665,391
DUKES									
Fishermen			19			9			20 +
Pounds			74,680			91,462			194,725
Value (\$)			217,320			266,155			566,651
ESSEX									
Fishermen			423	10	11	29	12	8	145
Pounds			3,832,443	71,650	2,125	951,258	30,488	141,564	1,460,341
Value (\$)			11,152,409	208,500	6,183	2,768,161	88,719	411,951	4,249,591
NANTUCKET									
Fishermen									+
Pounds			17,209		1,994				41,311
Value (\$)			50,078		5,803				120,216
NORFOLK									
Fishermen			47						3 +
Pounds			509,626						103,327
Value (\$)			1,483,012						300,682
PLYMOUTH									
Fishermen			246	9	6	16		13	40 +
Pounds			3,005,465	13,428	1,153	628,726		31,731	730,477
Value (\$)			8,745,903	39,075	3,355	1,829,593		92,336	2,125,689
SUFFOLK									
Fishermen			93					10	43 +
Pounds			1,217,543					44,517	333,446
Value (\$)			3,543,050					129,545	970,327
STATE TOTAL *									
Fishermen		9	1,036	34	48	88	15	74	548
Pounds		6,112	10,172,818	167,487	12,442	2,689,793	38,698	1,864,614	5,583,047
Value (\$)		17,786	29,602,900	487,387	36,206	7,827,296	112,612	5,426,027	16,246,668
OUT OF STATE									
Fishermen									+
Pounds								12,902	92,955
Value (\$)								37,543	270,499

* + Row and column totals may not equal the sum of the rows or columns due to masking of the data.

Value is based on an ex-vessel price of \$2.91, see Figure 2.

**Table 4. Massachusetts Commercial Lobster Fishery;
Selected Landings (Lbs.) and Effort Statistics, 1990-94**

	1990	1991	1992	1993	1994	Percent Five Year Change
Total Landings	16,567,377	15,986,991	14,967,260	14,425,864	16,174,818	-2.37
Percent Change		-3.50	-6.38	-3.62	12.12	
Total Traps Fished	458,280	485,924	477,836	467,180	488,945	6.69
Percent Change		6.03	-1.66	-2.23	4.66	
Total Value	\$40,755,747	\$43,644,485	\$44,602,435	\$41,979,264	\$47,068,720	15.49
Percent Change		7.09	2.19	-5.88	12.12	
TERRITORIAL (Inside 3 Miles)						
Landings (see note below)	12,260,805	11,001,384	9,658,545	9,124,412	10,498,316	-14.37
Percent Change		-10.27	-12.21	-5.53	15.06	
Value	\$30,161,580	\$30,033,778	\$28,782,464	\$26,552,039	\$30,550,100	1.29
Percent Change		-0.42	-4.17	-7.75	15.06	
Trap Landings	12,223,266	10,977,053	9,626,941	9,061,639	10,430,833	-14.66
		-10.20	-12.30	-5.87	15.11	
Traps Fished	385,201	397,951	376,901	361,213	365,821	-5.03
		3.31	-5.29	-4.16	1.28	
Non-Trap Landings (Gillnet, Diver)	37,539	24,331	31,604	38,948	40,583	8.11
		-35.18	29.89	23.24	4.20	
NON-TERRITORIAL (Outside 3 Miles)						
Landings (see note below)	4,306,572	4,985,607	5,308,715	5,301,452	5,676,503	31.81
Percent Change		15.77	6.48	-0.14	7.07	
Value	\$10,594,167	\$13,610,707	\$15,819,971	\$15,427,225	\$16,518,624	55.92
Percent Change		28.47	16.23	-2.48	7.07	
Trap Landings	3,616,544	4,166,974	4,296,329	4,315,675	4,634,960	28.16
		15.22	3.10	0.45	7.40	
Traps Fished	73,079	87,973	100,935	105,967	123,124	68.48
		20.38	14.73	4.99	16.19	
Non-Trap Landings (Gillnet, Trawler)	690,028	818,633	1,012,387	985,168	1,041,542	50.94
		18.64	23.67	-2.69	5.72	
Average Price (\$) / Pound	2.46	2.73	2.98	2.91	2.91	
Percent Change		10.98	9.16	-2.35	0.00	
Ave. Lbs. / Trap-Haul	0.7336	0.7008	0.6309	0.6554	0.6976	
Percent Change		-4.47	-9.97	3.88	6.44	
Ave. Lbs. / Trap	34.56	31.17	29.14	28.63	30.81	
Percent Change		-9.83	-6.50	-1.73	7.61	

Table 5. 1994 Massachusetts Commercial Lobster Fishery
Number of Active Commercial Fishermen and Landings by Homeport
Does Not Include Seasonal Licenses

TOWN	FISHERMEN NUMBER	RANK	POUNDS TERRITORIAL	POUNDS NON- TERRITORIAL	TOTAL POUNDS	PERCENT	RANK
BARNSTABLE-YARMOUTH	13	27	44,906	361,662	406,568	2.53	15
BEVERLY	46	11	528,946	199,198	728,144	4.53	6
BOSTON	109	3	858,659	318,619	1,177,277	7.33	2
BOURNE	10	29	55,623	0	55,623	0.35	35
CHATHAM	47	9	137,347	151,903	289,250	1.80	19
CHILMARK	19	24	57,018	186,207	243,224	1.51	23
COHASSET	38	14	487,833	86,764	574,597	3.58	11
DANVERS	14	26	64,034	3,122	67,155	0.42	33
DARTMOUTH	13	27	20,603	4,700	25,303	0.16	42
DENNIS-BREWSTER	22	22	113,764	930	114,694	0.71	29
DUXBURY	7	32	73,485	0	73,485	0.46	30
ESSEX	4	34	9,510	0	9,510	0.06	47
FAIRHAVEN	47	10	155,781	567,053	722,834	4.50	7
FALMOUTH	23	21	30,193	9,758	39,950	0.25	37
GLOUCESTER	232	1	1,045,919	1,058,803	2,104,721	13.11	1
HARWICH	4	34	16,891	99,828	116,719	0.73	27
HINGHAM	28	18	479,274	79,138	558,412	3.48	12
HULL	30	16	339,417	29,121	368,538	2.29	16
IPSWICH-ROWLEY	25	20	46,300	156	46,456	0.29	36
KINGSTON	7	32	29,235	0	29,235	0.18	41
LYNN	8	31	215,429	11,629	227,058	1.41	24
MANCHESTER	26	19	211,215	42,973	254,188	1.58	22
MARBLEHEAD	49	8	406,109	37,856	443,965	2.76	14
MARSHFIELD	68	5	652,492	303,472	955,964	5.95	5
MATTAPOISETT	9	30	62,737	7,739	70,475	0.44	32
NAHANT	23	21	290,979	19,143	310,121	1.93	18
NANTUCKET	7	32	17,346	41,311	58,657	0.37	34
NEW BEDFORD	186	2	112,186	502,366	614,552	3.83	10
NEWBURYPORT-NEWBURY	23	21	49,810	21,766	71,576	0.45	31
ORLEANS-EASTHAM	25	20	81,402	33,343	114,744	0.71	28
PLYMOUTH	90	4	994,164	50,828	1,044,992	6.51	3
PROVINCETOWN	42	12	143,873	27,296	171,169	1.07	25
QUINCY	9	30	26,838	11,846	38,684	0.24	38
REVERE	12	28	253,044	7,476	260,521	1.62	21
ROCKPORT	58	7	444,378	48,171	492,549	3.07	13
SALEM	9	30	6,677	703	7,379	0.05	48
SALISBURY	8	31	15,591	250	15,841	0.10	46
SANDWICH	41	13	554,313	428,024	982,337	6.12	4
SAUGUS	33	15	328,056	7,111	335,166	2.09	17
SCITUATE-NORWELL	61	6	426,166	260,179	686,345	4.27	8
SWAMPSCOTT	29	17	259,218	9,464	268,681	1.67	20
TISBURY-EDGARTOWN-OAK BLUFFS	16	25	11,395	7,217	18,612	0.12	44
TRURO	8	31	17,630	0	17,630	0.11	45
WAREHAM-MARION	8	31	38,166	0	38,166	0.24	39
WELLFLEET	6	33	29,907	4,753	34,660	0.22	40
WESTPORT-SWANSEA-FALL RIVER	47	9	92,194	529,108	621,302	3.87	9
WEYMOUTH	6	33	19,126	4,717	23,844	0.15	43
WINTHROP	20	23	121,876	7,351	129,227	0.80	26
STATEWIDE TOTAL	1,665		10,477,050	5,583,048	16,060,098	100.00	
OUTOFSTATE	11		8,824	92,955	101,779		

Shaded areas denote towns which rank in the top 10 for number of fishermen or total landings or both.

RECREATIONAL LOBSTER FISHERY

Recreational statistics are shown in Table 6. Licenses issued in 1994 totaled 11,321, up slightly from 1993, with 8,795 or 78 percent, reporting that they fished for lobster. In general, reporting rates improved slightly and the percentage of license holders fishing increased. Landings rose by about two percent from 1993. The number of traps fished recreationally rose slightly but, have still not recovered from a 14 percent drop in 1992. The number of hours dived has continued to decline from 1992 levels. Landings amounted to 393,805 pounds or only 2.4 percent of the commercial landings. The concern that recreational fishermen have a detrimental effect on the resource is often expressed by the commercial sector. These figures would suggest that this is probably not the case. It should be noted that those individuals who did not report, were not able to renew their recreational license for 1995. One quarter of the licenses in the recreational fishery have turned over in the past year; historically, this turn-over rate is not unusual.

Table 6. 1994 Massachusetts Recreational Lobster Fishery; License Status and Harvest Information

License Type:	Diver	Diver/Pot	Potman	Total	Percent
1) Number of Licenses Issued in 1994	4,079	3,401	3,841	11,321	
2) Number That Reported	2,976	2,743	3,076	8,795	77.69%
a) Total Number That Fished	2,380	2,256	2,577	7,213	63.71%
b) Total Number That Did Not Fish	596	487	499	1,582	13.97%
3) Number That Did Not Report	1,151	683	822	2,526	22.31%
					Percent Change
4) Number of Lobsters Reported Landed	51,392	86,455	174,201	312,048	from 1993
Pounds of Lobsters (Calculated)*	64,857	109,106	219,842	393,805	2.48%
5) Number Pots Fished		7,290	19,816	27,106	3.98%
6) Number of Hours Diving	35,857	31,503		67,360	-5.56%
* Based on 1.26 Pounds per Lobster.					

TERRITORIAL FISHERY

Territorial landings by commercial fishermen were concentrated in the months of July through November when 82 percent of the yearly harvest was landed. A typical yearly scenario is for catches to increase sometime in mid to late July and peak in August and September. Water temperatures rise during this time inducing growth and subsequent recruitment of previously sub-legal lobsters into the legal size category. The 1994 season was notably different because October landings were quite large and the volume of landings in May-July were smaller than in past years. See Table 7 and Figure 3.

The greatest harvest of lobster from territorial waters was from the Boston Harbor vicinity (including outlying areas out to the territorial line or Area 4 on Figure 1A), where approximately 31% of the state's territorial harvest was caught. This far outweighs any of the other designated areas in terms of landings.

Table 7: 1994 Massachusetts Commercial Lobster Fishery
Percent Monthly Territorial Harvest by License Type

Month	Coastal	Seasonal
January	1.06	0.00
February	0.48	0.00
March	0.61	0.00
April	2.02	0.00
May	5.19	0.00
June	4.98	16.14
July	10.65	44.48
August	15.53	30.08
September	19.06	9.31
October	22.97	0.00
November	13.35	0.00
December	4.10	0.00
Total	100.00	100.00

Figure 3. 1994 Massachusetts Commercial Lobster Fishery
Total Monthly Territorial Harvest for Coastal and Seasonal License Types

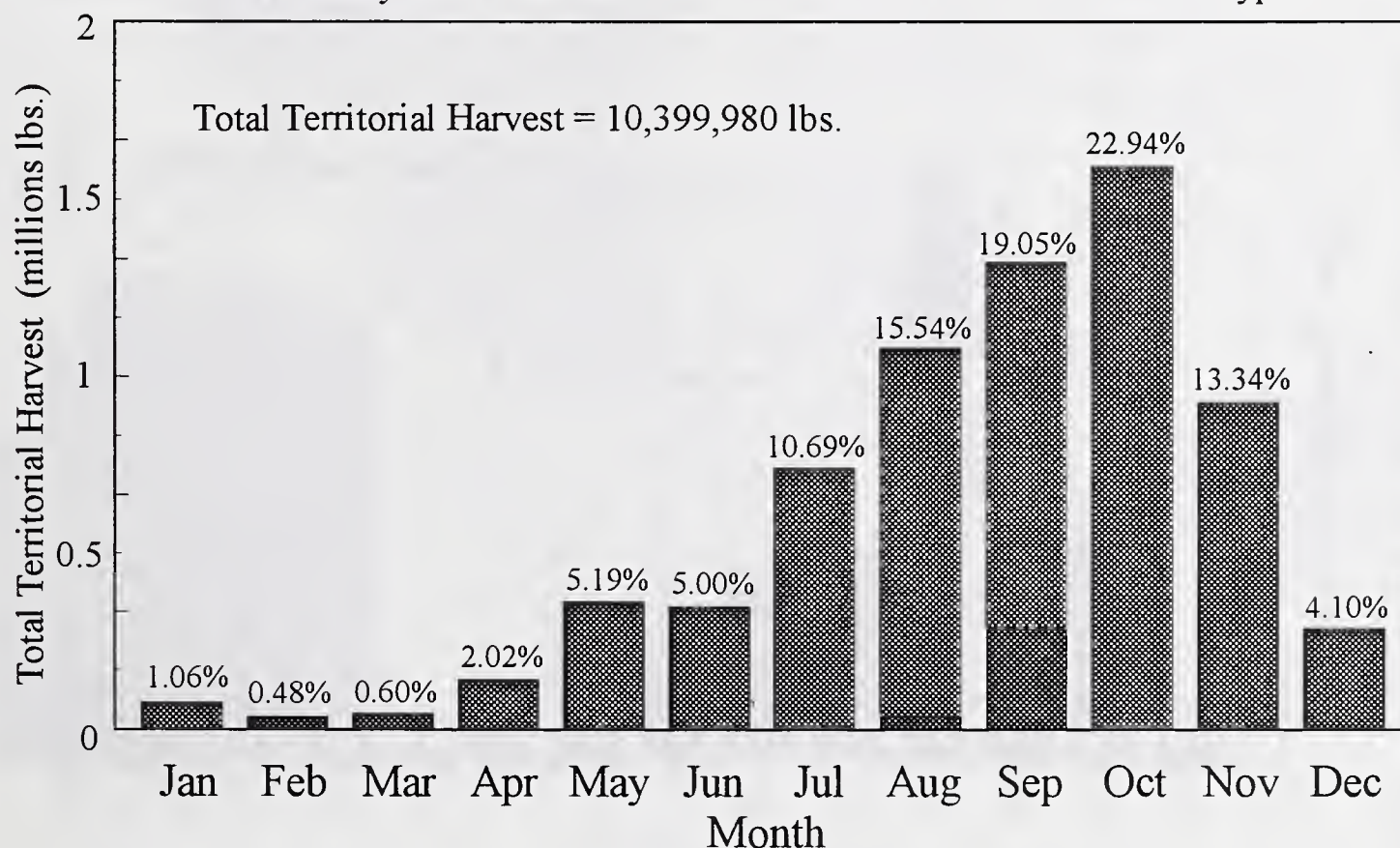


Table 8. 1994 Massachusetts Commercial Lobster Fishery
Percent Territorial Harvest by Area Fished by License Type

Area Fished	Coastal	Seasonal
1	1.31	1.71
2	12.96	10.22
3	14.50	1.54
4	31.01	5.79
5	11.22	1.09
6	9.23	8.18
7	5.19	22.15
8	5.77	0.00
9	2.26	6.17
10	0.33	25.07
11	0.00	0.00
12	0.72	9.12
13	1.77	0.23
14	3.73	8.74
Total Pounds	10,399,980	12,442

Territorial landings were up fifteen percent in 1994. Many areas outside of Boston Harbor saw notable increases in their percentage share of territorial landings including; Cape Cod Bay, the North & South Shores, and Buzzards Bay. See Figure 1A for the map of fishing areas and Figure 4 and Table 8 for a complete breakdown by area for each license type and month.

Offshore license landings are not shown in Figures 3 and 4 because license holders of this type cannot harvest lobsters within territorial waters. Offshore landings are more spread out during the year with offshore potmen landings peaking in autumn and mobile gear landings peaking in the winter months. Figure 5 shows the distribution of all lobster landings by statistical reporting area.

Figure 4. 1994 Massachusetts Commercial Lobster Fishery
Total Territorial Harvest for Coastal and Seasonal License Types by Area Fished

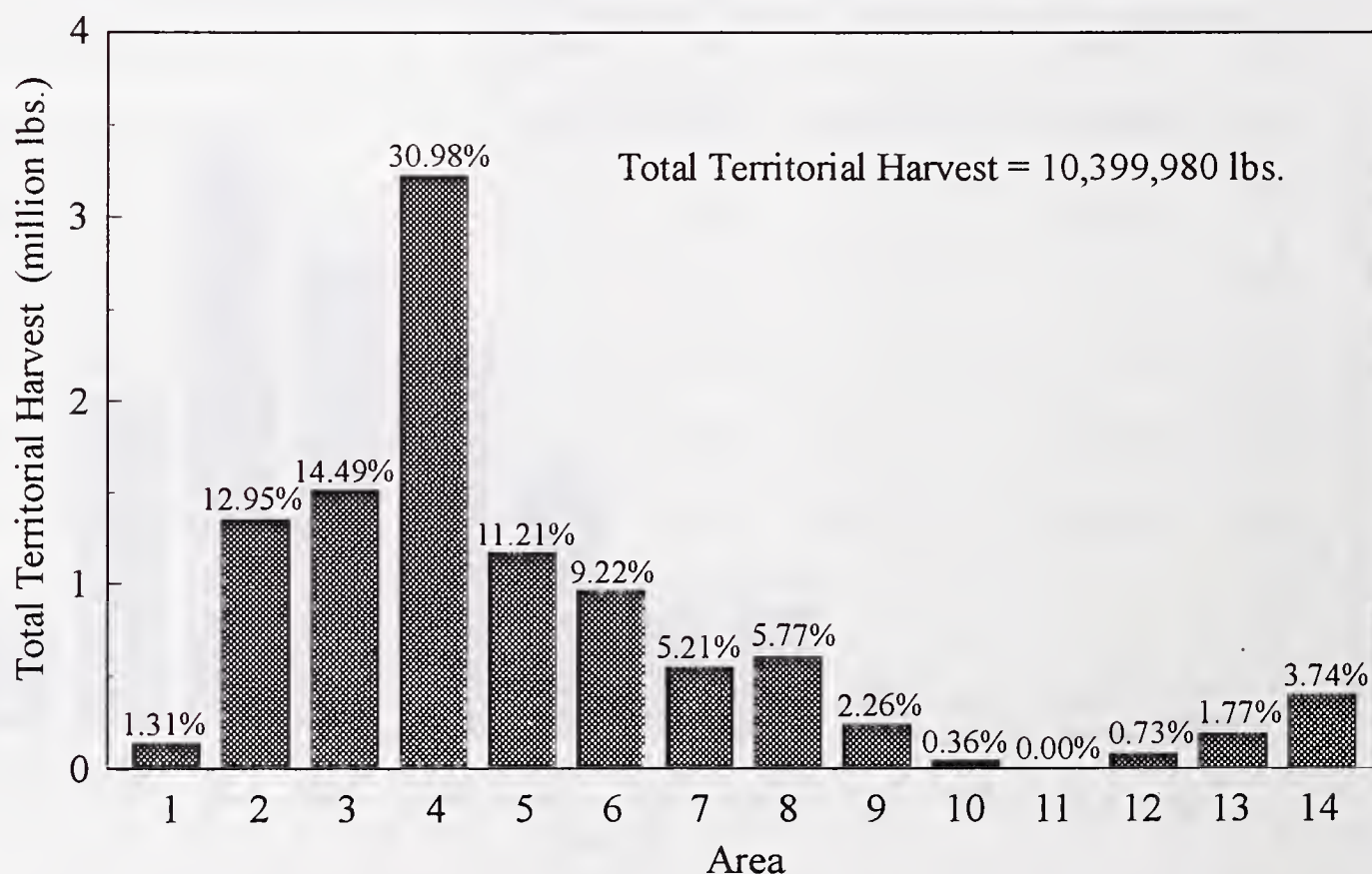
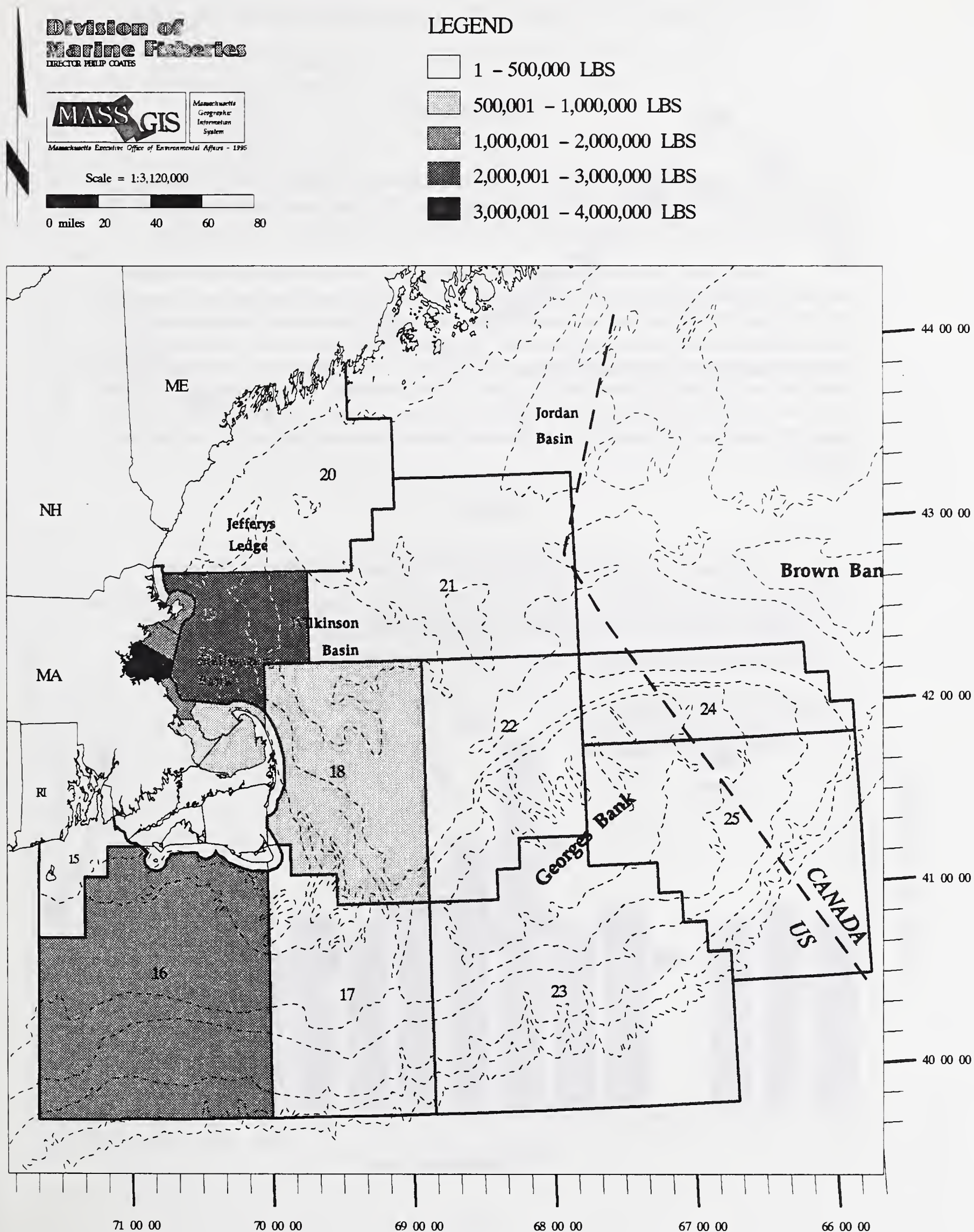


Figure 5. 1994 Massachusetts Lobster Fishery; Landings by Statistical Reporting Area – (See Figures 1A & 1B for Reference to Reporting Areas)



CATCH RATES

The average catch per trap haul for coastal lobstermen was .6484 pounds, an increase from 1993. For traps fished one set-over day the average was, .4732; for those fished two days, .6217; for three days, .6328; and for four days, .6483. See Figure 6 for catch effort by set-over day.

Figures 7 and 8 show the average catch per trap-haul - set-over day for area fished and month, where set-over day is factored into the effort. The average catch per trap haul - set-over day for 1994 was .1885, a three percent decrease from 1993 and a fifteen percent decrease from 1991. Overall these figures should be categorized as "estimates" since, in many cases, fishermen will estimate the number of traps hauled per trip for each month. If a fisherman leaves this information blank, the catch report is returned for corrections. If the combination of maximum traps, set-over days, average traps hauled per trip and number of trips per month is out of range for a particular month, the information is interpolated by Division statistics personnel and then factored into the analysis.

Figure 6. 1994 Massachusetts Commercial Lobster Fishery
Catch per Unit of Effort by Set-Over Day for Coastal Potmen and All Potmen

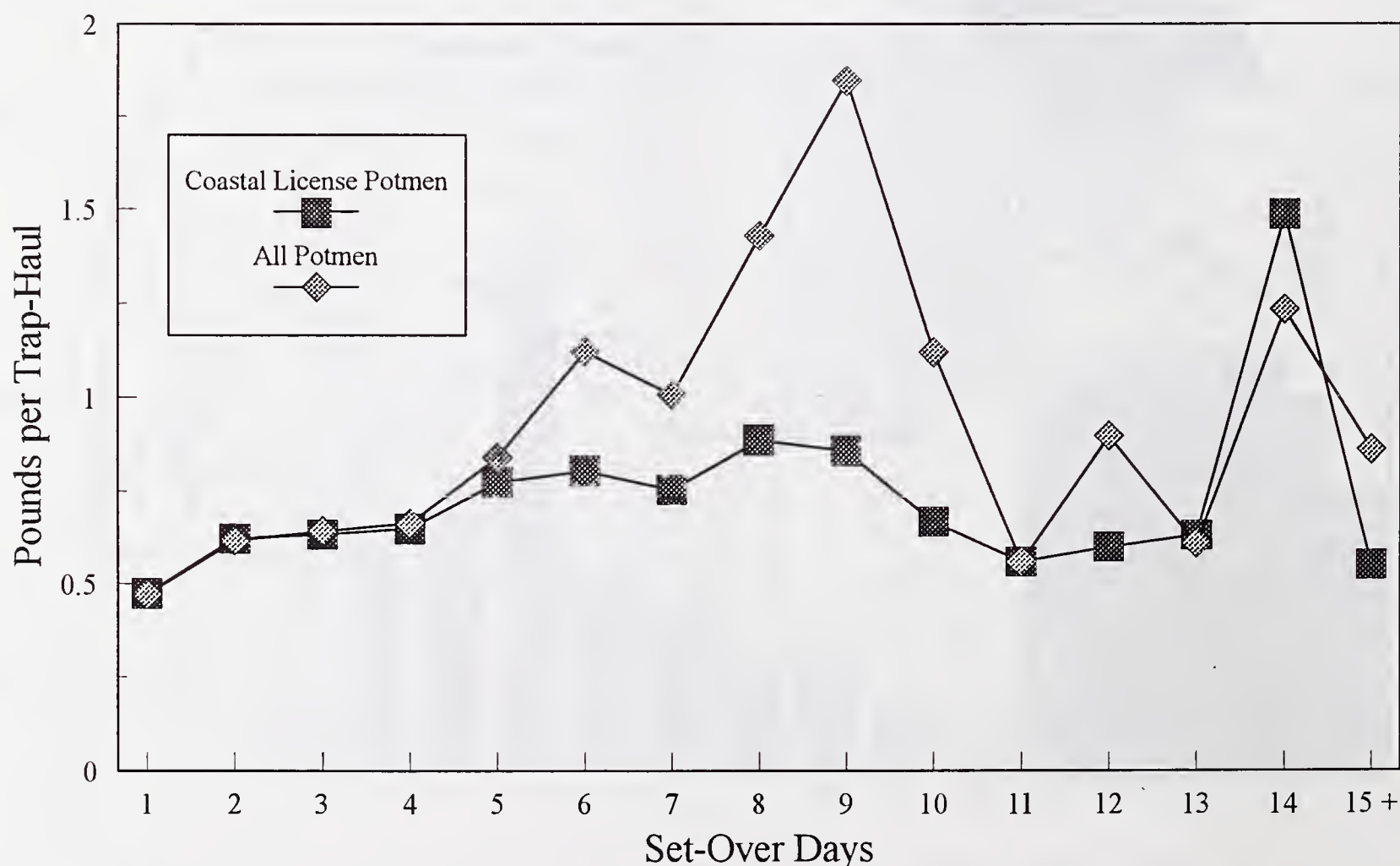


Figure 7. 1994 Massachusetts Commercial Lobster Fishery
Catch per Unit of Effort for Coastal and All Potmen by Month

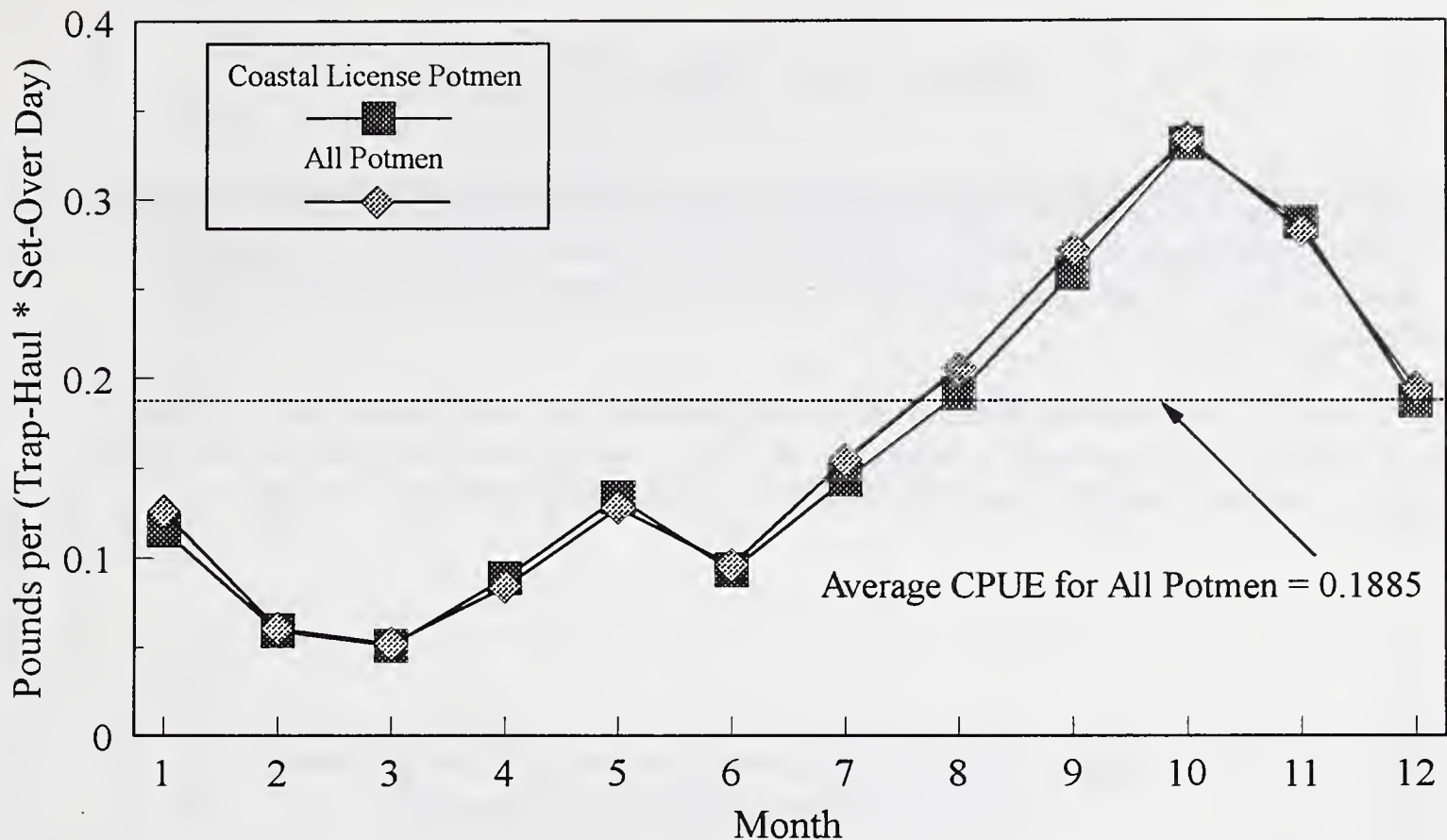
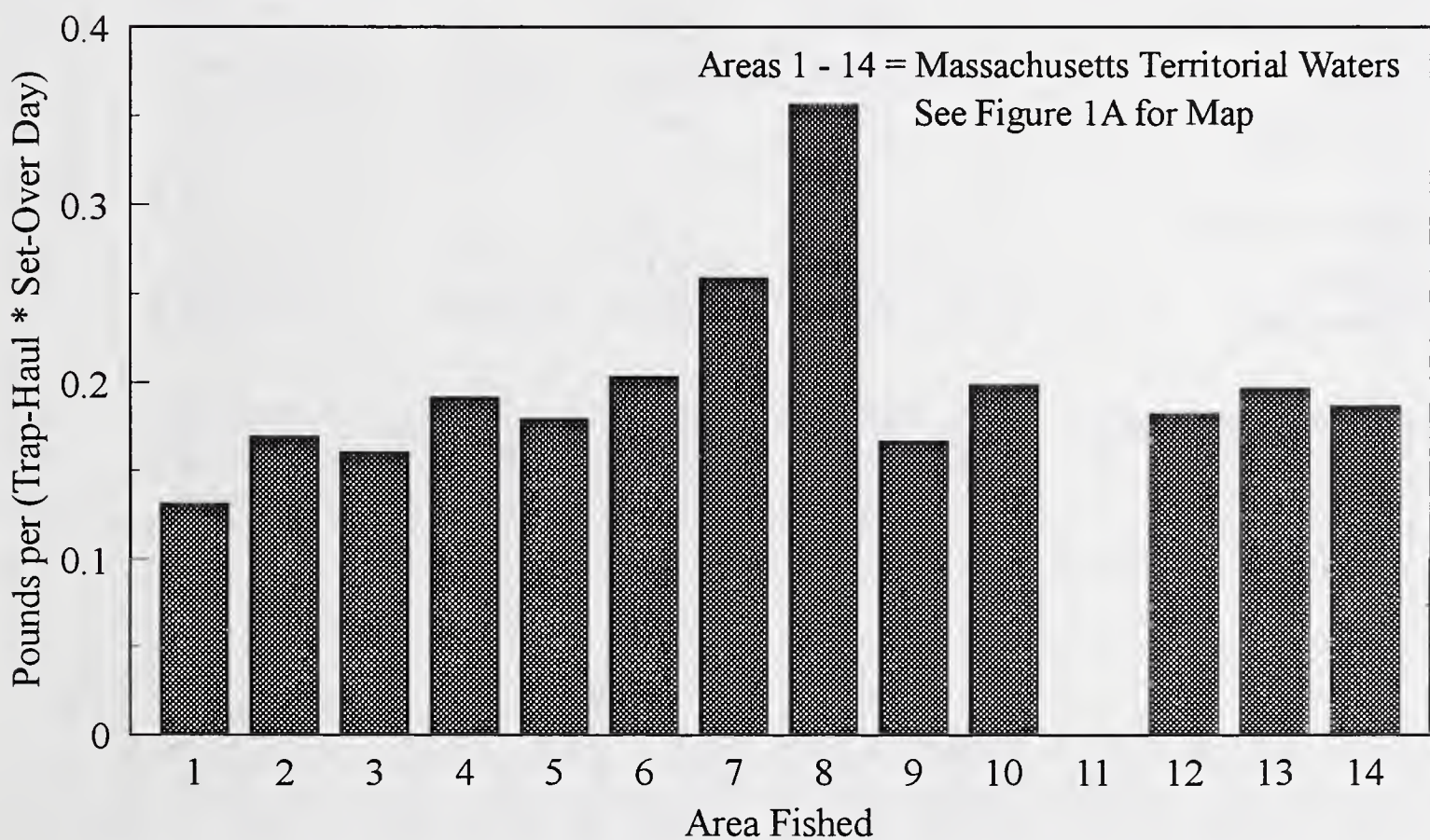


Figure 8. 1994 Massachusetts Commercial Lobster Fishery
Catch per Unit of Effort for All License Types by Area Fished



FISHING GEAR, VESSELS AND VALUE

In the commercial fishery, traps were valued at \$27,147,717, diving gear at \$25,371, and power and non-power boats at \$51,646,414, yielding a total gear value of \$78,819,502. Combined with the ex-vessel value of lobster sold, \$47,068,264, gives a total fishery value of \$125,888,222. See Tables 9, 10 and 11.

Overall, 77% of the traps fished in the commercial fishery were wire framed, with 22% being wooden framed and less than 1% categorized as "other". Average value (including warp and buoy) ranged anywhere from \$28.26 to \$104.55, with an overall average of \$55.79. See Table 9.

Table 9. 1994 Massachusetts Commercial Lobster Fishery
Trap Types Fished and Value by License Type

	Coastal	Offshore	Seasonal	Total Trap Type	Percent of Total
Wooden Framed Traps	86,630	19,154	49	105,833	21.75%
Value	\$4,289,477	\$1,669,774	\$2,383	\$5,961,634	
Value/Trap	\$49.51	\$87.17	\$49.12	\$56.33	
Wire Framed Traps	338,256	36,306	979	375,540	77.18%
Value	\$17,560,000	\$3,259,291	\$27,653	\$20,846,944	
Value/Trap	\$51.91	\$89.77	\$28.26	\$55.51	
Other Trap Types	4,007	1,187	25	5,219	1.07%
Value	\$214,290	\$124,100	\$750	\$339,140	
Value/Trap	\$53.48	\$104.55	\$30.00	\$64.98	
Total for License Type	428,893	56,647	1,052	486,592	
Value	\$22,063,767	\$5,053,165	\$30,785	\$27,147,717	
Value/Trap	\$51.44	\$89.20	\$29.26	\$55.79	

Value of trap includes warp and buoy. These figures include out-of-state fishermen.

Table 10. 1994 Massachusetts Commercial Lobster Fishery; Number of Fishing Vessels and Pots Fished

AREA:	TERRITORIAL (Areas 1-14)				NON-TERRITORIAL (Areas 15 - 25)				GRAND TOTAL
	----- COASTAL -----			SEASONAL (Student)	TOTAL TERRITORIAL	--- COASTAL --- Trawl/ Gillnet	--- OFFSHORE --- Trawl/ Gillnet	TOTAL NON-TERRITORIAL	
LICENSE TYPE:	Potman	Diver	Potman/ Trawl/ Gillnet	Potman		Potman	Potman		
GEAR TYPE:	Potman	Diver	Potman/ Trawl/ Gillnet	Potman		Potman	Potman		
-- COUNTY --									
<i>BARNSTABLE</i>									
Pots Fished	43,227	2,738		457	46,422	8,640	16,567	25,207	71,629
Power Boat	152	15	0	19	189	11	19	74	263
Non Power Boat	32	8	0		40	6	2	9	49
<i>BRISTOL</i>									
Pots Fished	14,969			25	14,994	11,397	15,392	26,789	41,783
Power Boat	60		1	1	62	18	20	183	245
Non Power Boat	2		0		2			0	2
<i>DUKES</i>									
Pots Fished	2,519	40		24	2,583	2,522	2,030	4,552	7,135
Power Boat	21	1	0	2	24	11	9	22	46
Non Power Boat	2		0		2	1	0	1	3
<i>ESSEX</i>									
Pots Fished	135,400	1,933		229	137,562	22,285	6,665	28,950	166,512
Power Boat	441	12	4	9	466	26	8	124	590
Non Power Boat	96	4	0	1	102	1	0	1	103
<i>NANTUCKET</i>									
Pots Fished	642			150	792	908	0	908	1,700
Power Boat	6		0	6	13	1		2	15
Non Power Boat			0		0			0	0
<i>NORFOLK</i>									
Pots Fished	18,533	700		25	19,258	2,804	500	3,304	22,562
Power Boat	48	2	0	1	51	2	1	3	54
Non Power Boat	15	2	0		17	1	1	2	19
<i>PLYMOUTH</i>									
Pots Fished	96,056	990		129	97,176	14,851	5,090	19,941	117,117
Power Boat	265	10	6	7	290	23	9	45	335
Non Power Boat	59	1	0		60	5	2	7	67
<i>SUFFOLK</i>									
Pots Fished	44,894				44,894	4,535	9,403	13,938	58,832
Power Boat	94		0		96	3	11	43	139
Non Power Boat	8		0		8		0	0	8
<i>STATE TOTAL</i>									
Pots Fished	356,239	6,402		1,039	363,680	67,943	55,647	123,590	487,270
Power Boat	1,087	40	11	45	1,191	95	77	496	1,687
Non Power Boat	1	15	0	1	231	14	5	20	251
<i>OUT OF STATE</i>									
Pots Fished	250				250	0	1,400	1,400	1,650
Power Boat	1		0		1		1	9	10
Non Power Boat	1		0		1		0	0	1

Table 11. 1994 Massachusetts Commercial Lobster Fishery; Value of Fishing Vessels and Diving Gear

AREA:		TERRITORIAL (Areas 1-14)					NON-TERRITORIAL (Areas 15 - 25)					GRAND TOTAL
LICENSE TYPE:	GEAR TYPE:	----- COASTAL -----			SEASONAL (Student)	TOTAL TERRITORIAL	--- COASTAL ---		--- OFFSHORE ---		TOTAL NON-TERRITORIAL	
		Diver	Potman	Potman/ Diver	Trawl/ Gillnet	Potman		Potman	Trawl/ Gillnet	Potman	Trawl/ Gillnet	
-- COUNTY -- BARNSTABLE	Diving Gear	3,095	3,451,530	630,440	0	184,455	0	881,680	0	1,707,658	2,556,718	0
	Power Boat		12,720	1,578	0		4,269,520	1,336	0	2,150	30	5,146,056
	Non Power Boat						14,298					3,516
BRISTOL	Diving Gear						0					0
	Power Boat		2,156,050		5,000	2,000	2,163,050	1,468,500	0	1,990,300	974,295	4,433,095
	Non Power Boat		200		0		200		0	0	0	200
DUKES	Diving Gear			3,000			3,000					0
	Power Boat		405,350	3,000	0	650	409,000	258,703	0	183,800	72,000	514,503
	Non Power Boat		262		0		262	400	0		0	400
ESSEX	Diving Gear	500		4,253			4,753					0
	Power Boat		11,053,000	187,900	78,600	16,000	11,335,500	1,954,600	207,500	750,300	1,177,001	4,089,401
	Non Power Boat	175	36,811	1,390	0	500	38,876	200	0		0	200
NANTUCKET	Diving Gear	5,000					5,000					0
	Power Boat	350	73,000		0	8,415	81,765	75,000	0		54,000	129,000
	Non Power Boat				0		0		0		0	0
NORFOLK	Diving Gear			1,810			1,810					0
	Power Boat		1,823,000	75,000	0	3,000	1,901,000	150,000	0	50,000	0	200,000
	Non Power Boat		7,350	1,175	0		8,525	100	0	200	0	300
PLYMOUTH	Diving Gear	5,500		2,558			8,058					0
	Power Boat	42,500	7,219,280	185,800	83,250	32,870	7,563,700	832,175	17,500	485,250	60,470	1,395,395
	Non Power Boat		29,701	50	0		29,751	2,037	0	1,450	0	3,487
SUFFOLK	Diving Gear	2,750					2,750					0
	Power Boat	35,750	3,584,250		0	1,000	3,621,000	324,000	1,500	1,887,700	1,499,124	3,712,324
	Non Power Boat		2,340		0		2,340		0		0	0
STATE TOTAL	Diving Gear	13,750	0	11,621		0	25,371	0	0	0	0	0
	Power Boat	81,695	29,765,460	1,082,140	166,850	248,390	31,344,535	5,944,658	226,500	7,055,008	6,393,608	19,619,774
	Non Power Boat	175	89,384	4,193	0	500	94,252	4,073	0	3,800	30	7,903
OUT OF STATE	Diving Gear						0					0
	Power Boat			30,000			30,000		0	500,000	49,750	549,750
	Non Power Boat			200		0	200		0		0	200

VALIDITY OF DATA

Each year 150 coastal license holders are selected and audited for the records they used to complete the catch portion of their catch report. The Division does this to assess the amount of error involved in the reporting process. Selection is done randomly except when fishermen fail an audit. In these cases, they are audited again the following year. The audit was first instituted in 1977 for the 1976 catch reports. Over the last five years the lobstermen selected for audit reported landing 6,928,031 pounds. The audit of their records revealed a harvest of 6,973,289 pounds or a difference of 0.65 percent.

Last year the fishermen selected for audit reported harvesting 1,506,942 pounds of lobster on their 1994 catch reports. The audit of their actual records showed total landings of 1,544,983 pounds, a difference of 38,041 pounds or -2.52 percent. Twenty-one of the randomly selected fishermen have yet to respond to the audit request. Figure 9 shows the distribution of the percent difference between the selected fishermen's reported catch and their audited records. In general, reported landings are very well documented by dealer receipts and/or personal records, especially by the so-called "high-liners" in the fishery. Most of the lobstermen have had licenses for several years and know what is required in terms of reporting their fishing activities in addition to the value of accurate reporting in the development of management plans. They also know that their reported information is kept strictly confidential and published only in aggregate form. These factors all contribute to a conscientious and responsible reporting constituency.

Figure 9. Massachusetts Commercial Lobster Fishery
Frequency Distribution of the Percent Difference Between
Fishermen's Reported Catch and Their Audited Records

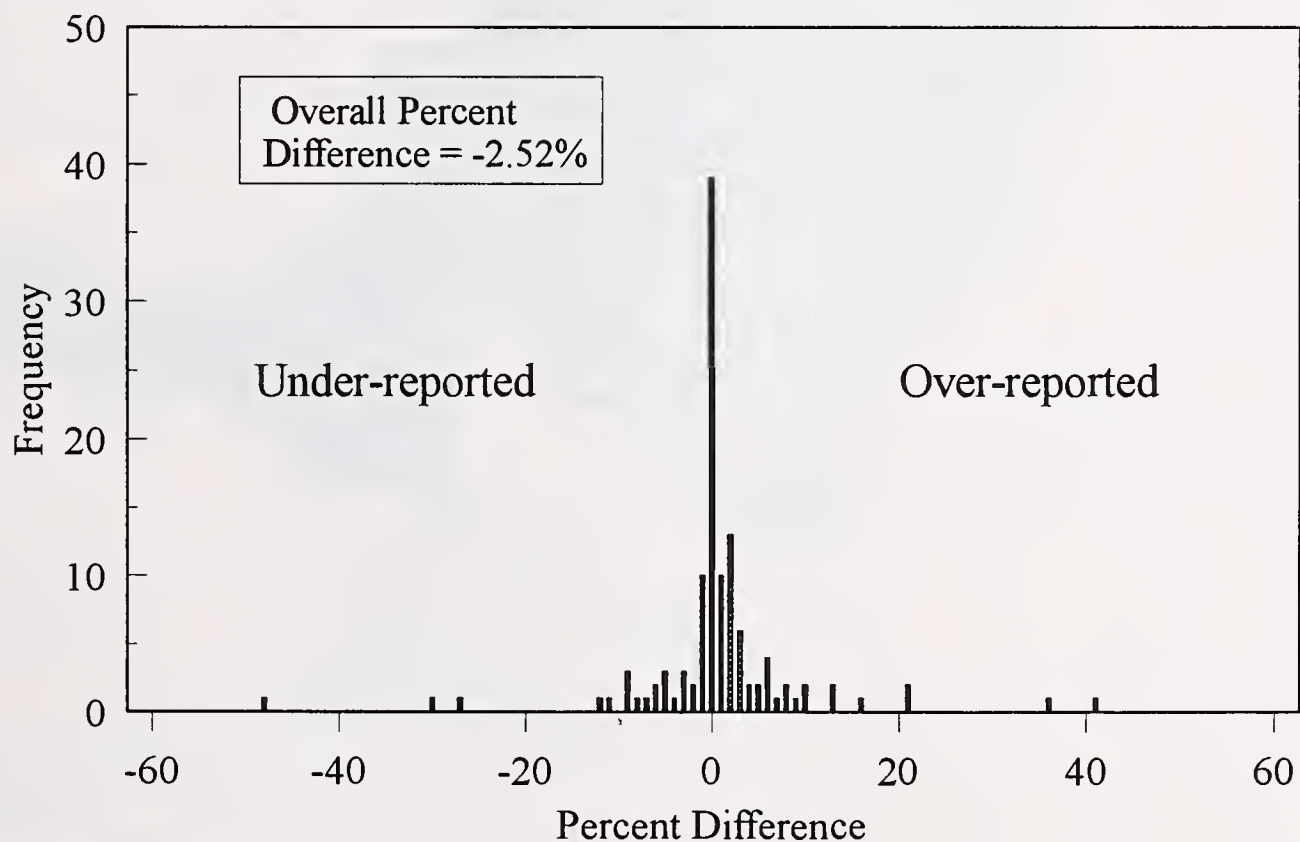
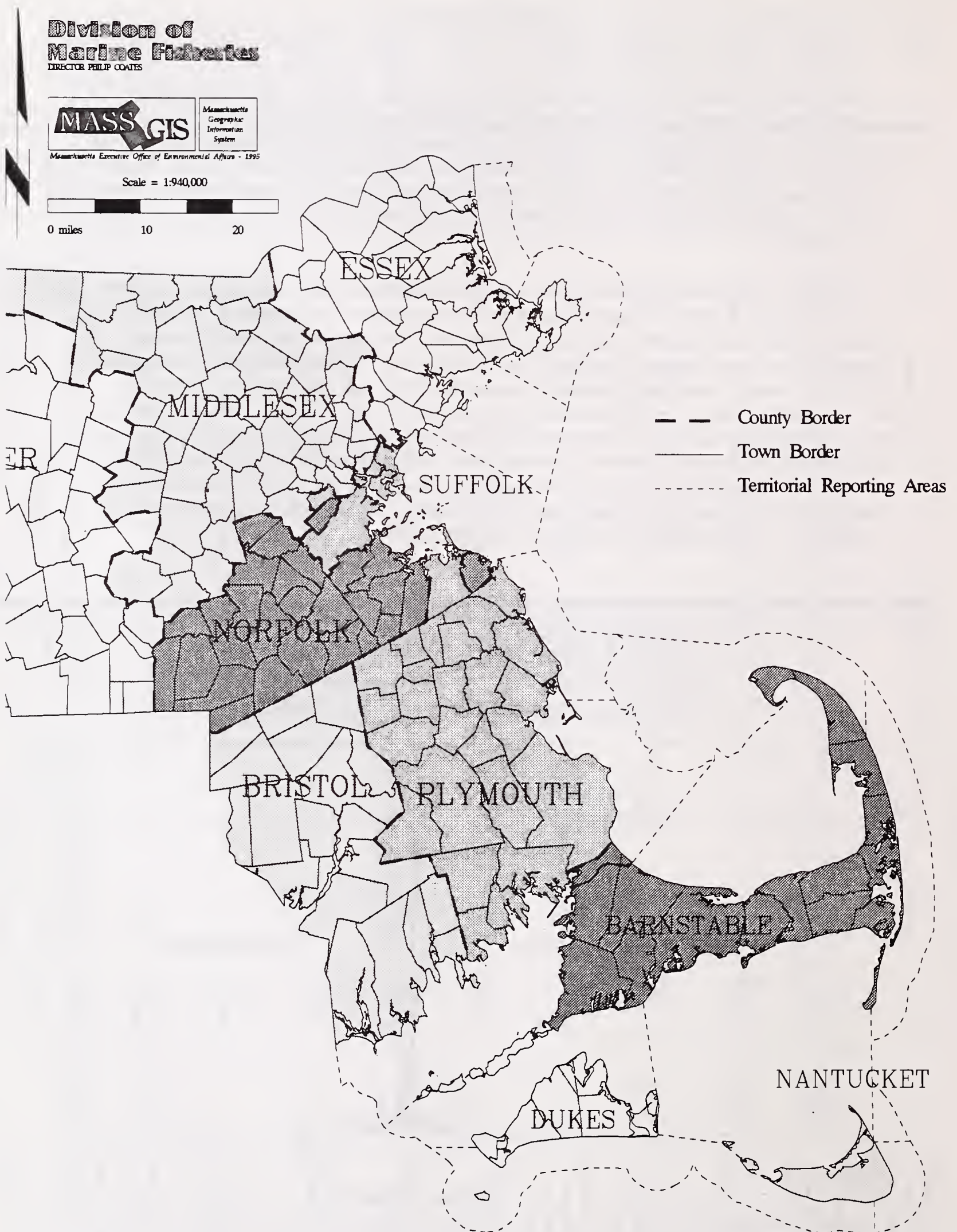


Figure 10. Coastal Map of Massachusetts Showing County Boundaries



DIVISION OF MARINE FISHERIES
CATCOVE MARINE LABORATORY
92 Fort Avenue
Salem, MA 01970



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